

IN THE CLAIMS:

Please amend claims 1, 3, and 5, and add new claim 7 as follows:

1. (Currently amended) An optical disk recording apparatus for recording information onto an optical disk having a wobbled recording track by irradiation of a recording light beam having power modulated in accordance with a recording signal, said optical disk recording apparatus comprising a push-pull signal processing circuit including:

a push-pull signal generation circuit arranged to generate a push-pull signal based on a reflected -light detection signal representative of a reflection of the recording light beam off the optical disk; and

a gain variation circuit arranged to vary gain of either the reflected-light detection signal in response to modulation of the recording light beam coming onto the optical disk, or the push-pull signal generated by said push-pull signal generation circuit in response to modulation of the recording light beam coming onto the optical disk, to thereby suppress a level of variation of the push-pull signal caused by the modulation of the recording light beam coming onto the optical disk.

2. (Previously presented) An optical disk recording apparatus as claimed in claim 1 wherein said gain variation circuit varies the gain of the reflected-light detection signal between a mark forming section and a blank forming section of the recording signal or the push-pull signal between a mark forming section and a blank forming section of the recording signal.

3. (Currently amended) An optical disk recording apparatus for recording information onto an optical disk having a wobbled recording track by irradiation of a

recording light beam having power modulated in accordance with a recording signal, said optical recording apparatus comprising a push-pull signal processing circuit including:

a push-pull signal generation circuit arranged to generate a push-pull signal based on a reflected-light detection signal representative of a reflection of the recording light beam off the optical disk; and

a gain variation circuit arranged to vary gain of either the reflected-light detection signal in response to modulation of the recording light beam coming onto the optical disk, or the push-pull signal generated by said push-pull signal generation circuit in response to modulation of the recording beam coming onto the optical disk, to thereby suppress a level variation of the push-pull signal caused by the modulation of the recording light beam coming unto the optical disk,

wherein said gain variation circuit varies the gain of the reflected-light detection signal or the push-pull signal between a mark forming section and a blank forming section of the recording signal, and said gain variation circuit varies the gain, in response to mark forming section of the recording signal, in accordance with a time-axial length of the mark forming section.

4. (Original) An optical disk recording apparatus as claimed in claim 1 which further comprises a wobble extraction circuit including a filter circuit arranged to extract a wobble signal component out of an output signal of said push-pull signal processing circuit.

5. (Currently Amended) An optical disk recording apparatus as claimed in claim 1 which further comprises An optical disk recording apparatus for recording

information onto an optical disk having a wobbled recording track by irradiation of a recording light beam having power modulated in accordance with a recording signal,  
said optical disk recording apparatus comprising a push-pull signal processing circuit  
including:

a push-pull signal generation circuit arranged to generate a push-pull signal based on a reflected -light detection signal representative of a reflection of the recording light beam off the optical disk; and

a gain variation circuit arranged to vary gain of either the reflected-light detection signal in response to modulation of the recording light beam or the push-pull signal generated by said push-pull signal generation circuit in response to modulation of the recording light beam to thereby suppress a level of variation of the push-pull signal caused by the modulation of the recording light beam; and

a pre-pit detection circuit including a comparator arranged to compare an output signal of said push-pull signal processing circuit with a predetermined threshold value for detection of a pre-pit formed in the optical disk.

6. (Previously presented) An optical disk recording apparatus for recording information onto an optical disk having a wobbled recording track by irradiation of a recording light beam having power modulated in accordance with a recording signal, said optical disk recording apparatus comprising a push-pull signal processing circuit including:

a push-pull signal generation circuit arranged to generate a push-pull signal based on a reflected-light detection signal representative of a reflection of the recording light beam off the optical disk;

a gain variation circuit arranged to vary gain of either the reflected-light detection signal or the push-pull signal generated by said push-pull signal generation circuit in response to modulation of the recording light beam, to thereby suppress a level variation of the push-pull signal caused by the modulation of the recording light beam; and

a pre-pit detection circuit including

a comparator arranged to compare an output signal of said push-pull signal processing circuit with a predetermined threshold value for detection of a pre-pit formed in the optical disk,

a first peak value detection circuit arranged to detect a peak value of the output signal of said push-pull signal processing circuit,

a filter circuit arranged to extract a wobble signal component out of the output signal of said push-pull signal processing circuit,

a second peak value detection circuit arranged to detect a peak value of an output signal of said filter circuit, and

a threshold value setting circuit arranged to set, as the threshold value, an optionally-selected value between the peak value detected by said first peak value detection circuit and the peak value detected by said second peak value detection circuit.

7. (New) An optical disk recording apparatus for recording information onto an optical disk having a wobbled recording track by irradiation of a recording light beam having power modulated in accordance with a recording signal, said optical disk recording apparatus comprising a push-pull signal processing circuit including:

a push-pull signal generation circuit arranged to generate a push-pull signal based on a reflected-light detection signal representative of a recording light beam off the optical disk;

a gain variation circuit arranged to vary gain of either the reflected-light detection signal in response to modulation of the recording light beam coming onto the optical disk or the push-pull signal generated by said push-pull signal generation circuit in response to modulation of the recording light beam coming onto the optical disk, to thereby suppress a level variation of the push-pull signal caused by the modulation of the recording light beam; and

a pre-pit detection circuit including

a comparator arranged to compare an output signal of said push-pull signal processing circuit with a predetermined threshold value for detection of a pre-pit formed in the optical disk,

a first peak value detection circuit arranged to detect a peak value of the output signal of said push-pull signal processing unit.

a filter circuit arranged to extract a wobble signal component out of the output signal of said push-pull signal processing unit,

a second peak value detection circuit arranged to detect a peak value of an output of said filter circuit, and

a threshold value setting circuit arranged to set, as the threshold value, an optionally-selected value between the peak value detected by said first peak value detection circuit and the peak value detected by said second peak value detection circuit.